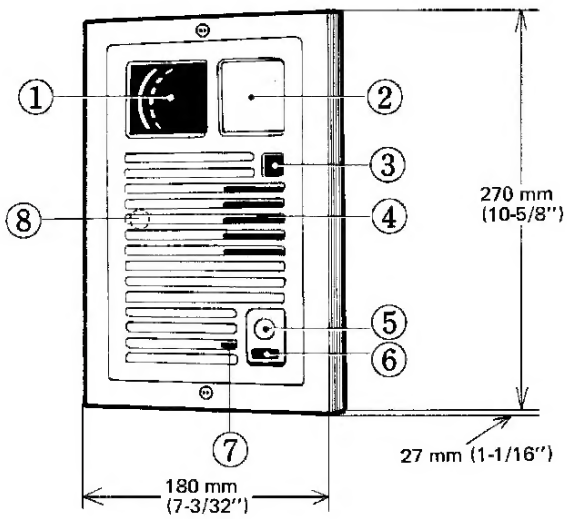
AIPHONE

834324 MA-DI-0286 ©

VIDEO INTERCOM SYSTEM

MODEL: MA-D *(door station with illumination lamp)*

— INSTRUCTIONS —



NAMES AND FUNCTIONS

1. Camera
2. Illumination lamp
3. Beam sensor (to protect vidicon in the camera)
4. Speaker
5. Call button
6. LED
7. Microphone
8. Vertical picture angle adjuster

FEATURES

* Thin, compact design. Projects only 27 mm (1-1/16") from the wall.
* Vandal-proof door station. Camera lens is protected by high impact-resistant shield. Door station panel is heavy-duty aluminum with tamper proof screws.
* Sharp camera focus. Door station camera has wide-angle lens, capturing image from 25 cm to up to 5 m (10" to 16').
* Beam sensor protects the camera from potential damage due to excessive light.
* Quick response door station. Illuminating lamp is lit upon pushing call button. Room station video monitor didplays image of caller immediately after call tone sounds.
* Monitor button allows you to both see and hear outside.
* Either semi-flush or surface mounting.
* Simple wiring. One coaxial cable plus one pair for illumination lamp.
* Vertical picture angle adjuster included on door station.
* MAW-B relay box for addtional light to illuminate the caller from the front.

SPECIFICATIONS

* Vidicon: 2/3 inch vidicon (2.25 inch through lens)
* Illumination requirements: About 10 lux.
* Carrier frequency: Transmission . . . . . 6.0 MHz.
  Reception . . . . . 6.5 MHz.
* Wiring: One coaxial cable plus a pair wires for illumination lamp.
* Wiring distance:

Audio/Video;

Coaxial cable	3C-2V	5C-2V
Max. distance	100 m	300 m

Coaxial cable (size of core conductor)	RG-59/U (22GA)	RG-59/U (20GA)
Max. distance	600'	1,000'

***Coxial cable requirements on page 3 must be met.**

Illumination lamp;

Wire gauge	0.8 mm dia.	1.2 mm dia.	1.6 mm dia.
Max. distance	100 m	200 m	300 m
Wire gauge	20 AWG	16 AWG	14 AWG
Max. distance	330'	660'	1,000'

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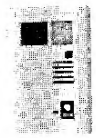
COMPONENTS AVAILABLE FOR USE WITH YOUR VIDEO INTERCOM SYSTEM



MA-D, Door station with camera, illumination lamp & beam sensor.

MA-1A, Room station with video monitor and door release button.

PS-24N, Power supply adaptor, DC-24V, 2A.

MAW-B, Relay box to illuminate additional lamp. Powered by PS-24M power supply.

EL-9S, Electric door release.

1BR-1, Extension chime call speaker.

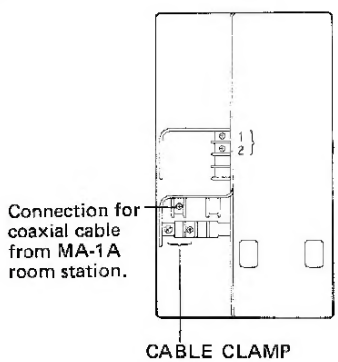
MAW-J; Flush mounting back box for MA-D and MA-1A.

MAW-R, Surface mounting box for MA-D.

INSTALLATION

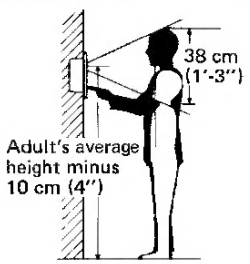
Do not attempt to install your intercom system until you have read and thoroughly understood the installation procedure Aiphone's warranty is void if system is installed in a manner other than described in this manual.

ACTUAL TERMINAL LOCATIONS



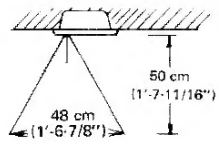
MA-D

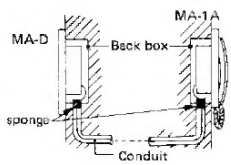
1 , 2 : For illumination light. Connect to Z , Z terminals on MA-1A room station (non-polarized).

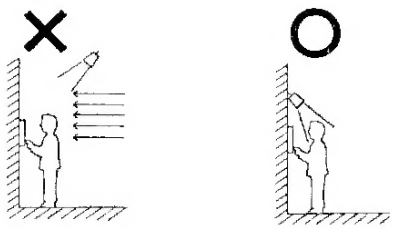


INSTALLATION LOCATION REQUIREMENTS

* The location of the door station should not be exposed to:
  - direct sunlight
  - a strong light source such as mercury street lamps, porch or gate lights, which may create the spotted stain (permanent burn-out) in the picture tube of master station.
  - direct rain or snow.
* Please decide most suitable height of MA-D door station, taking the adults' average height in consideration. It is suggested that the center of a camera lens come at a height of adults' average height minus 10 cm (4').
* If the sunlight or other strong light source is behind the person standing at the door station, and there is not illuminating lamp spotlighting the face, the face will appear dark on the room station monitor. This situation can occur when buildings create shadows on entry areas.
  A separate illumination light may be necessary. The Aiphone Relay Unit MAW-B is available, to turn on an external light when the visitor depresses the call button on the door station.
* When using conduit for running cable, please put sponge or the like at both ends to avoid acoustic feedback through the conduit.







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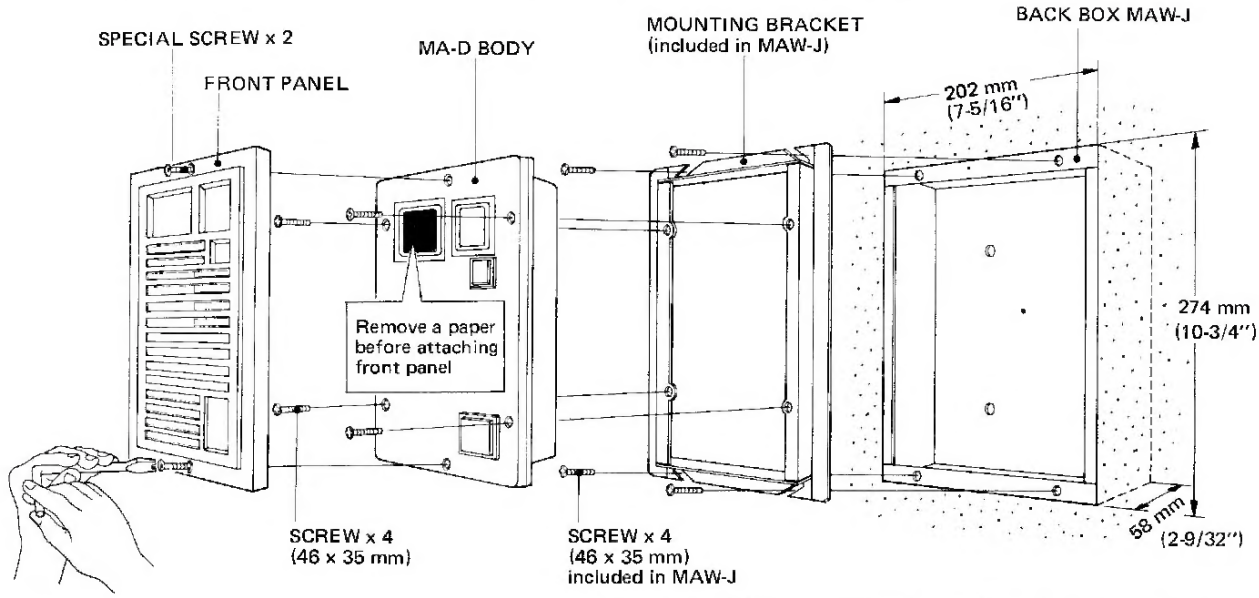
FLUSH MOUNTING TO WALL

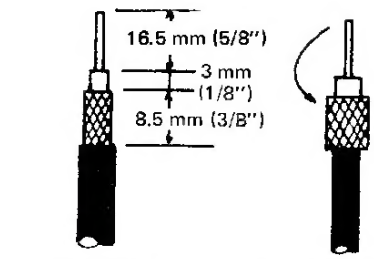
1. Use a template provided to open a hole of H: 274 mm x W: 202 mm (H: 10-3/4" x W: 7-15/16"), securing depth of 58 mm (2-5/16") or deeper.
2. Install MAW-J back box into the wall.
3. Attach the bracket to the back box with 4 screws so as to be fitted vertically.
4. Attach MA-D body to the bracket with 4 screws.
5. Remove a black paper put on the camera lens.
6. Attach front panel to the MA-D body with 2 special tamper proof screws (driver is included).



* BLACK PAPER to protect vidicon from damage by strong light. Must be removed before attaching front panel.

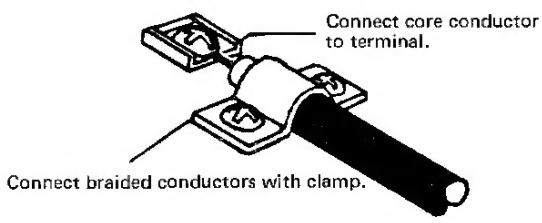
NOTE: When mounting MA-D on the surface of gate or wall, please use MAW-R surface-mounting box.

COAXIAL CABLE CONNECTION

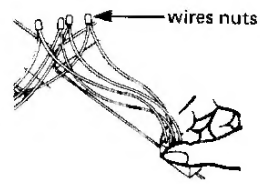


Type: 5C-2V Type: 3C-2V

- **COAXIAL CABLE REQUIREMENTS:**
  Use 5C-2V or 3C-2V OR RG-59/U which must meet the following specifications;
  - * Both core and braided conductors must be of copper.
  - * Impedance: 75 ohm.
  - * **Permitted closed loop DC resistance: 14 ohm.**
  - * Permitted attenuation: 6 dB at 4MHz.
  - * Cable sheath size should not exceed 7.4mm (5/16").
- When using 3C-2V, strip the insulation and fold back the braided conductors, as shown to avoid shorting to core conductor.



■ CONNECTING WIRES



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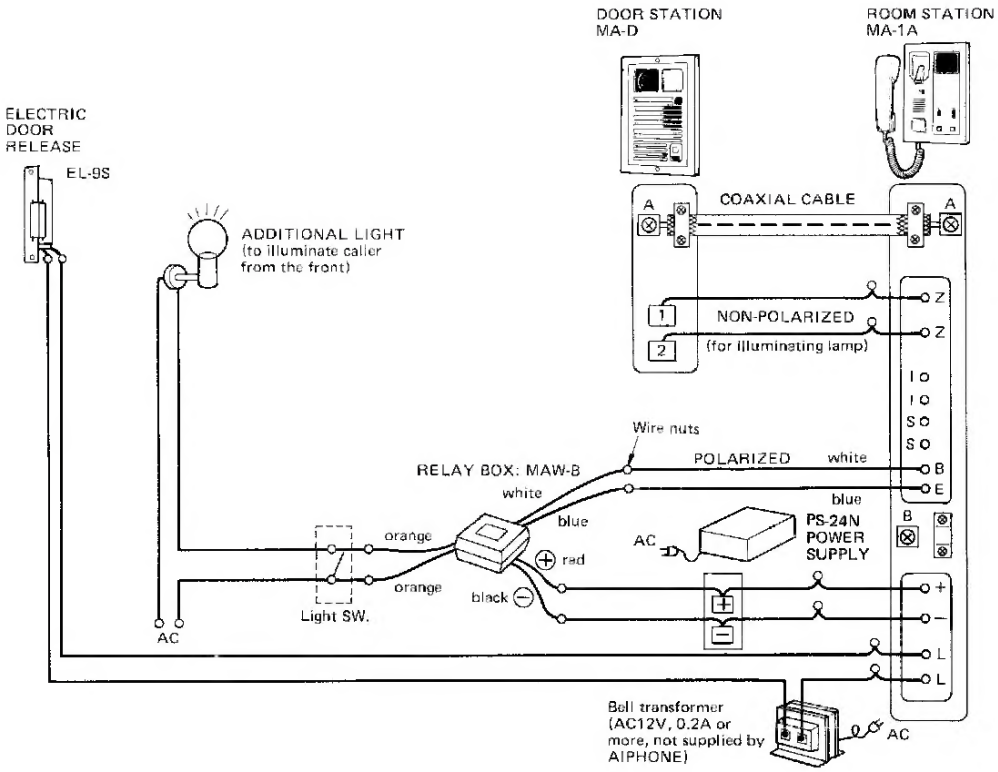
WIRING DIAGRAM



CONNECTING MAW-B RELAY BOX

When door station must be installed in a place where a caller is strongly backlighted, an additional light must be installed in conjunction with MAW-B relay box to illuminate caller from the front.

Connect white and blue leads of MAW-B to [B] , [E] terminals of MA-1A by wire nuts. Connect orange wires of MAW-B to the light switch. Connecting reversely will cause permanent damage to MAW-B relay box.

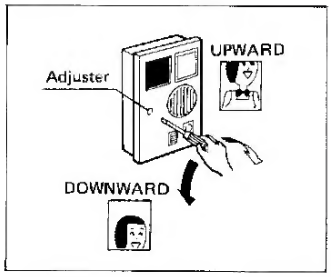
* Specifications;

Power source:	DC-24V. Extended from PS-24N power supply.
Relay contact capacity:	Less than 100W.
Wiring:	2-wires (polarized) between MAW-B and MA-1A room station.
	2-wires (polarized) between MAW-B and PS-24N power supply.
Wiring distance:	Up to 80 m (26') with 0.65 mm dia. (22 AWG) wires between MAW-B and PS-24N.

ADJUSTING VERTICAL PICTURE ANGLE

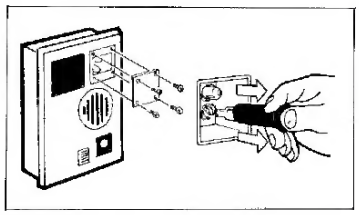
The MA-D unit includes an adjuster for vertical picture angle to move a camera lens by 2.5 cm (1") each upward and downward.

1. Remove the front panel.
2. Remove the cap.
3. Adjust using a minus head screw driver.
4. Replace the cap for weather resistance.



REPLACEMENT OF AN ILLUMINATION LAMP

1. Remove a front panel, using a special driver provided.
2. Remove 4 screw and lamp cover.
3. Attach the tube provided to lamp and pull it off.



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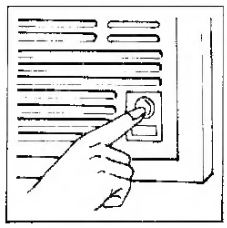
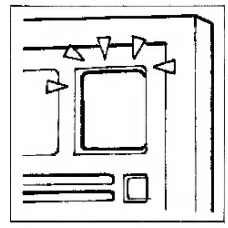
OPERATIONS

- CALLING FROM DOOR STATION

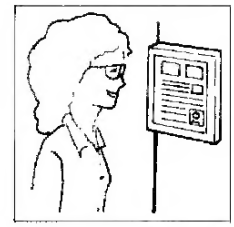


Momentarily depress CALL button.

* 4-stroke electronic chime sounds at MA-1A room station, and you hear call-acknowledged tone.

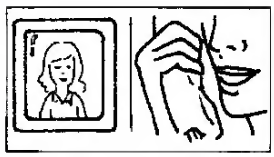


Illumination lamp comes on automatically.



Talk handsfree standing in front of the camera lens, when master replies.

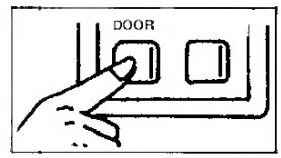
- ANSWERING AT ROOM STATION



Pick up the handset and talk.

* After 4-stroke chime sounds, picture appears. Pick up the handset and talk to the person in the picture.
* Timer circuit shuts off the picture and voice communication automatically approximately one minute after you pick up the handset to answer. You can turn on the circuit again by depressing the monitor button.
* If you do not answer when you are called, the picture goes off approximately 20 seconds after the chime is heard.

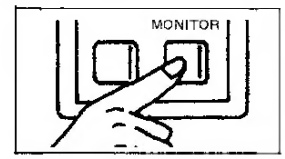
- RELEASING DOOR LOCK



Depress and hold down electric door release button.

* While the door release button is held down, the door release will remain open, and a buzzing sound is heard at the door.
* When the door release button is released, the door is locked again.

- MONITORING THE DOOR STATION



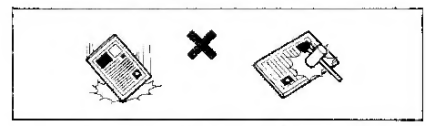
Momentarily depress MONITOR button.

* Picture and sound come ON by depressing the monitor button. You can watch and listen to the outside without picking up the handset.
* In the monitoring mode, the master station cannot be heard at the door station, and you may pick up handset for talking to door station, if necessary.
* Master station can receive a call from the door station while monitoring.
* When you need to stop monitoring, pick up the handset once and hang up.
* Approximately one minute after the monitor button is depressed, the master station turns back to standby mode automatically.

Note: When the door station would be exposed to direct sunlight or other strong light of more than 20,000 lux, the beam sensor works to close the shutter and the picture will not appear on the video monitor of room station, but calling and communication can be made.

CAUTIONS

* DO NOT OPEN THE BACK COVER OF THE MA-D UNIT, WITHOUT FIRST REMOVING PLUG OF PS-24N POWER SUPPLY FROM AC OUTLET.
  The high voltage is loaded on the camera unit.
* DO NOT CONNECT ANY TERMINAL ON MA-D UNIT TO AC POWER LINES.
* Handle the MA-D unit with utmost care. The built-in camera-tube, if dropped or struck, can be damaged.



* Do not run the coaxial cable through doors or windows or between furniture. Windows, doors or furniture may pinch coaxial cable.

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TROUBLE-SHOOTING GUIDE

No.	MODE OF TROUBLE	LOOK FOR
1	Unit totally dead.	* Power supply not plugged. * Connector leads to power supply disconnected. * Short in connector leads to power supply.
2	Only picture tube lights.	* Inferior connector of coaxial cable at the terminal end. * Short in coaxial cable connections at the terminal end. * Break in coaxial cable. * Coaxial cable disconnected. * Defective door station (in camera).
3	Picture tube lights, but no picture.	* The shutter has closed to protect the vidicon in the camera from direct sunlight . . . this is normal operation, not a fault. * Defective door station (in camera).
4	Can call and communicate, but picture tube remains dark.	* Defective room station (in video monitor).
5	Cannot call from door station.	* Defective door or room station.
6	Picture is okay, but no audio signal.	* Defective door or room station.
7	Inferior sensitivity and contrast of picture tube.	* Worn-out vidicon (A general life of vidicon is approximately 3 years in normal application).
8	Fuzziness in bright area.	
9	Spots in picture.	
10	"Negative" image (reversal of black and white).	* Worn-out picture tube (A general life of picture tube is approximately 4 years in normal application).

CLEANING YOUR INTERCOM STATIONS

* Your Aiphone intercom stations may be cleaned with a soft cloth dampened with household cleanser, such Mr. Clean or Fantastik.

***

We at AIPHONE are proud of our products. Our designers and engineers strive to bring you the finest in communication equipment. Each item has been carefully tested and inspected before leaving our factory. Properly installed and used, your Aiphone intercom system should give years of trouble-free service.

We are pleased to offer the following warranty:

WARRANTY

Aiphone warrants its products to be free from defects of material and workmanship under normal use and service for a period of one year after delivery to the ultimate user and will repair free of charge or replace at no charge, should it become defective upon which examination shall disclose to be defective and under warranty. Aiphone reserves unto itself the sole right to make the final decision whether there is a defect in materials and/or workmanship; and whether or not the product is within the warranty.

This warranty shall not apply to any Aiphone product which has been subject to misuse, neglect, accident, or to use in violation of instructions furnished, nor extended to units which have been repaired or altered outside of the factory.

This warranty does not cover batteries or damage caused by batteries used in connection with the product.

This warranty covers bench repairs only, and any repairs must be made at the shop or place designated in writing by Aiphone. Aiphone will not be responsible for any costs incurred involving on site service calls.

Aiphone Co., Ltd., Nagoya, Japan
Aiphone Corporation, Bellevue, Washington
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INTERCOM SYSTEMS
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